



#4

## SEQUENCE LISTING

<110> Millennium Pharmaceuticals, Inc.  
Meyers, Rachel  
Silos-Santiago, Inmaculada

<120> 32544, a novel human phospholipase C and  
uses thereof

<130> 38155-20048.00

<140> US 09/927,112

<141> 2001-08-10

<150> US 60/246,808

<151> 2000-11-08

<160> 17

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45 50 55 60

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95	100	105	
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110	115	120	
cac cgc gag tcg ctg gac ctg gtc tcc acc agc agc gag gtg gcg cgc His Arg Glu Ser Leu Asp Leu Val Ser Thr Ser Ser Glu Val Ala Arg			854
125	130	135	140
acc tgg gtc act ggc ctg cgc tac ctc atg gcc ggc atc agc gac gag Thr Trp Val Thr Gly Leu Arg Tyr Leu Met Ala Gly Ile Ser Asp Glu			902
145	150	155	
gac agc ctg gct cgc cgc cag cgc acc agg gac cag tgg ctg aag cag Asp Ser Leu Ala Arg Arg Gln Arg Thr Arg Asp Gln Trp Leu Lys Gln			950
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175	180	185	
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cac cat ggc tac act ctg act tcc aag atc ctc ttc aaa gac gtc att His His Gly Tyr Thr Leu Thr Ser Lys Ile Leu Phe Lys Asp Val Ile 385	390	395	1622	
gaa acc atc aac aaa tat gcc ttc atc aag aat gag tac cca gtg atc Glu Thr Ile Asn Lys Tyr Ala Phe Ile Lys Asn Glu Tyr Pro Val Ile 400	405	410	1670	
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gcc ctc tct gac ctg gtg aag tac acc aag tcc gtg gcc acc cac gac Ala Leu Ser Asp Leu Val Lys Tyr Thr Lys Ser Val Ala Thr His Asp 625 630 635	2342
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Gln Leu Pro Lys Pro Arg Asp Ser Met Leu Gly Asp Arg Gly Glu Ile			
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Trp Glu Glu Thr Leu Val Phe Met Val His Met Pro Glu Ile Ala Leu			
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Val Tyr Leu Glu Gly Met Glu Glu Ala Ser Ile Phe Val His Val Ala			
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Thr Ala Ser Ala Pro Thr Lys Ser Gln Lys Pro Gly Arg Arg Gly Phe			
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ccg gag ctg gtc ctg ggt aca cgg gac aca ggc tcc aag ggg gtg gca			3302
Pro Glu Leu Val Leu Gly Thr Arg Asp Thr Gly Ser Lys Gly Val Ala			
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Asp Asp Val Val Pro Pro Gly Pro Gly Pro Ala Pro Glu Ala Pro Ala			
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Gln Glu Gly Pro Gly Ser Gly Ser Pro Arg Gly Lys Ala Pro Ala Ala			

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Gly Ser Cys Ala Gly Val Asn Thr Gly Gly Leu Gln Arg Glu Arg Pro			
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Pro Ser Pro Gly Pro Ala Ser Arg Gln Ala Ala Ile Arg Gln Gln Pro			
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Gly Thr Leu Leu Pro Trp Leu Ala Cys Gly Pro *			
1200	1205		

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Asn	Ile	Leu	Pro	Val	Val	Glu	Arg	Cys	Met	Gly	Ala	Met	Gln	Glu	Gly
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Tyr	Tyr	Leu	Asp	Glu	His	Arg	Ser	Cys	Ile	Arg	Trp	Arg	Pro	Ser	Arg
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Lys	Asn	Glu	Lys	Ala	Lys	Ile	Ser	Ile	Asp	Ser	Ile	Gln	Glu	Val	Ser
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Glu	Gly	Arg	Gln	Ser	Glu	Val	Phe	Gln	Arg	Tyr	Pro	Asp	Gly	Ser	Phe
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Asp	Pro	Asn	Cys	Cys	Phe	Ser	Ile	Tyr	His	Gly	Ser	His	Arg	Glu	Ser
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Gly	Leu	Arg	Tyr	Leu	Met	Ala	Gly	Ile	Ser	Asp	Glu	Asp	Ser	Leu	Ala
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Glu	Glu	Phe	Cys	Ala	Phe	Tyr	Lys	Met	Met	Ser	Thr	Arg	Arg	Asp	Leu
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Tyr	Leu	Leu	Met	Leu	Thr	Tyr	Ser	Asn	His	Lys	Asp	His	Leu	Asp	Ala
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Thr	Arg	Ser	Pro	Ala	Gly	Asp	Ile	Phe	Asn	Pro	Glu	His	His	His	Val

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His Asn Thr Tyr Leu Val Gly Asp Gln Leu Met Ser Gln Ser Arg Val			
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Asp Met Tyr Ala Trp Val Leu Gln Ala Gly Cys Arg Cys Val Glu Val			
355	360	365	
Asp Cys Trp Asp Gly Pro Asp Gly Glu Pro Ile Val His His Gly Tyr			
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Thr Leu Thr Ser Lys Ile Leu Phe Lys Asp Val Ile Glu Thr Ile Asn			
385	390	395	400
Lys Tyr Ala Phe Ile Lys Asn Glu Tyr Pro Val Ile Leu Ser Ile Glu			
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Asn His Cys Ser Val Ile Gln Gln Lys Lys Met Ala Gln Tyr Leu Thr			
420	425	430	
Asp Ile Leu Gly Asp Lys Leu Asp Leu Ser Ser Val Ser Ser Glu Asp			
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Ala Thr Thr Leu Pro Ser Pro Gln Met Leu Lys Gly Lys Ile Leu Val			
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Lys Gly Lys Lys Leu Pro Ala Asn Ile Ser Glu Asp Ala Glu Glu Gly			
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Glu Val Ser Asp Glu Asp Ser Ala Asp Glu Ile Asp Asp Asp Cys Lys			
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Leu Leu Asn Gly Asp Ala Ser Thr Asn Arg Lys Arg Val Glu Asn Thr			
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Ala Lys Arg Lys Leu Asp Ser Leu Ile Lys Glu Ser Lys Ile Arg Asp			
515	520	525	
Cys Glu Asp Pro Asn Asn Phe Ser Val Ser Thr Leu Ser Pro Ser Gly			
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Ser Ala Asn Gly Gly Cys Gly Tyr Val Leu Lys Pro Gly Cys Met Cys			
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Lys Lys Gln Leu Val Leu Arg Ile Ile Ser Gly Gln Gln Leu Pro Lys			
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 Val Glu Val Glu Ile Ile Gly Leu Pro Val Asp Cys Ser Arg Glu Gln  
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 Thr Arg Val Val Asp Asp Asn Gly Phe Asn Pro Thr Trp Glu Glu Thr  
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 Leu Val Phe Met Val His Met Pro Glu Ile Ala Leu Val Arg Phe Leu  
 820 825 830  
 Val Trp Asp His Asp Pro Ile Gly Arg Asp Phe Ile Gly Gln Arg Thr  
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 Asp Ser Leu Gly Ala Pro Cys Cys Gly Leu Asp Pro His Ala Ile Pro  
 1060 1065 1070  
 Gly Arg Ser Arg Glu Ala Pro Lys Gly Pro Gly Ala Trp Arg Gln Gly  
 1075 1080 1085  
 Pro Gly Gly Ser Gly Ser Met Ser Ser Asp Ser Ser Pro Asp Ser  
 1090 1095 1100  
 Pro Gly Ile Pro Glu Arg Ser Pro Arg Trp Pro Glu Gly Ala Cys Arg  
 1105 1110 1115 1120  
 Gln Pro Gly Ala Leu Gln Gly Glu Met Ser Ala Leu Phe Ala Gln Lys  
 1125 1130 1135  
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 1140 1145 1150  
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 Gly Ser Pro Ala Ala Ala Ser Ala Trp Thr Val Ser Pro Arg Val Leu  
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<210> 3  
 <211> 3624  
 <212> DNA  
 <213> Homo sapiens

<400> 3  
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<210> 4  
<211> 85  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 4  
Val Ile Lys Glu Gly Trp Leu Leu Lys Lys Ser Lys Ser Trp Lys Lys  
1 5 10 15  
Arg Tyr Phe Val Leu Phe Asn Asn Val Leu Leu Tyr Tyr Lys Asp Ser  
20 25 30  
Lys Lys Lys Pro Lys Gly Ser Ile Pro Leu Ser Gly Cys Gln Val Glu  
35 40 45  
Lys Pro Asp Lys Asn Cys Phe Glu Ile Arg Thr Asp Arg Thr Leu Leu  
50 55 60  
Leu Gln Ala Glu Ser Glu Glu Glu Arg Lys Glu Trp Val Lys Ala Ile  
65 70 75 80  
Gln Ser Ala Ile Arg  
85

<210> 5  
<211> 29  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 5  
Glu Leu Lys Glu Ala Phe Lys Glu Phe Asp Lys Asp Gly Asp Gly Lys  
1 5 10 15  
Ile Ser Phe Glu Glu Phe Lys Ala Ala Leu Lys Lys Leu  
20 25

<210> 6  
<211> 29  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 6  
Glu Leu Lys Glu Ala Phe Lys Glu Phe Asp Lys Asp Gly Asp Gly Lys

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Ile	Ser	Phe	Glu	Glu	Phe	Lys	Ala	Ala	Leu	Lys	Lys	Leu
			20			25						

<210> 7  
<211> 153  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 7

Asp	Met	Ser	Ile	Pro	Leu	Ser	His	Tyr	Phe	Ile	Ser	Ser	Ser	His	Asn
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Thr	Tyr	Leu	Thr	Gly	Lys	Gln	Leu	Trp	Gly	Lys	Ser	Ser	Val	Glu	Ser
							20		25				30		
Tyr	Arg	Gln	Gln	Leu	Asp	Ala	Gly	Cys	Arg	Cys	Val	Glu	Leu	Asp	Cys
						35		40			45				
Trp	Asp	Gly	Lys	Pro	Asp	Asp	Glu	Pro	Ile	Ile	Tyr	His	Gly	His	Thr
						50		55			60				
Leu	Thr	Leu	Glu	Ile	Lys	Leu	Lys	Asp	Val	Leu	Glu	Ala	Ile	Lys	Asp
						65		70			75			80	
Phe	Ala	Phe	Lys	Pro	Thr	Ser	Pro	Tyr	Pro	Val	Ile	Leu	Ser	Leu	Glu
						85					90			95	
Asn	His	Cys	Asn	Ser	Asp	Asp	Gln	Gln	Arg	Lys	Met	Ala	Lys	Tyr	Phe
						100			105			110			
Lys	Glu	Ile	Phe	Gly	Asp	Met	Leu	Leu	Thr	Lys	Pro	Thr	Leu	Asp	Ser
						115			120			125			
Leu	Thr	Thr	Glu	Pro	Gly	Leu	Pro	Leu	Pro	Ser	Leu	Lys	Asp	Leu	Arg
						130			135			140			
Gly	Lys	Ile	Leu	Leu	Lys	Asn	Lys	Lys							
						145			150						

<210> 8  
<211> 128  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 8

Glu	Leu	Ser	Asn	Leu	Val	Asn	Tyr	Ile	Gln	Ser	Ile	Lys	Phe	Arg	Ser
1					5				10				15		
Phe	Glu	Leu	Ser	Gly	Glu	Glu	Lys	Asn	Thr	Ser	Tyr	Glu	Ile	Ser	Ser
						20			25			30			
Phe	Ser	Glu	Arg	Lys	Val	Lys	Ala	Lys	Lys	Leu	Leu	Lys	Glu	Ser	Pro
						35			40			45			
Val	Glu	Phe	Val	Lys	Tyr	Asn	Lys	Arg	Gln	Leu	Ser	Arg	Val	Tyr	Pro
						50			55			60			
Lys	Gly	Thr	Arg	Val	Asp	Ser	Ser	Asn	Phe	Met	Pro	Gln	Val	Phe	Trp
						65			70			75			80
Asn	Ala	Gly	Cys	Gln	Met	Val	Ala	Leu	Asn	Phe	Gln	Thr	Ser	Asp	Leu
							85			90			95		
Pro	Met	Gln	Ile	Asn	Asp	Gly	Met	Phe	Glu	Tyr	Asn	Gly	Gly	Gln	Pro
						100			105			110			

Asp Gly Ser Phe Lys Ser Gly Tyr Leu Leu Lys Pro Glu Phe Leu Arg  
115 120 125

<210> 9  
<211> 95  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 9  
Leu Thr Val Thr Val Ile Glu Ala Arg Asn Leu Pro Lys Met Asp Lys  
1 5 10 15  
Val Asn Gly Arg Leu Ser Asp Pro Tyr Val Lys Val Ser Leu Leu Gly  
20 25 30  
Asp Lys Lys Asp Leu Lys Lys Phe Lys Thr Lys Val Val Lys Lys Thr  
35 40 45  
Asn Gly Leu Asn Pro Val Trp Asn Glu Glu Thr Phe Val Phe Glu Lys  
50 55 60  
Val Pro Leu Pro Glu Leu Ala Ser Lys Thr Leu Arg Phe Ala Val Tyr  
65 70 75 80  
Asp Glu Asp Arg Phe Ser Arg Asp Asp Phe Ile Gly Gln Val Thr  
85 90 95

<210> 10  
<211> 325  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 10  
Gln Val Lys Gln Ala Leu Gly Leu Lys Gly Leu Phe Leu Arg Gly Pro  
1 5 10 15  
Lys Pro Gly Ser Leu Asp Ser His Ala Ala Gly Arg Pro Pro Ala Arg  
20 25 30  
Pro Ser Val Ser Gln Arg Ile Leu Arg Arg Thr Ala Ser Ala Pro Thr  
35 40 45  
Lys Ser Gln Lys Pro Gly Arg Arg Gly Phe Pro Glu Leu Val Leu Gly  
50 55 60  
Thr Arg Asp Thr Gly Ser Lys Gly Val Ala Asp Asp Val Val Pro Pro  
65 70 75 80  
Gly Pro Gly Pro Ala Pro Glu Ala Pro Ala Gln Glu Gly Pro Gly Ser  
85 90 95  
Gly Ser Pro Arg Gly Lys Ala Pro Ala Ala Val Ala Glu Lys Ser Pro  
100 105 110  
Val Arg Val Arg Pro Pro Arg Val Leu Asp Gly Pro Gly Pro Ala Gly  
115 120 125  
Met Ala Ala Thr Cys Met Lys Cys Val Val Gly Ser Cys Ala Gly Val  
130 135 140  
Asn Thr Gly Gly Leu Gln Arg Glu Arg Pro Pro Ser Pro Gly Pro Ala  
145 150 155 160  
Ser Arg Gln Ala Ala Ile Arg Gln Gln Pro Arg Ala Arg Ala Asp Ser  
165 170 175  
Leu Gly Ala Pro Cys Cys Gly Leu Asp Pro His Ala Ile Pro Gly Arg

180	185	190	
Ser Arg Glu Ala Pro Lys Gly Pro Gly Ala Trp Arg Gln Gly Pro Gly			
195	200	205	
Gly Ser Gly Ser Met Ser Ser Asp Ser Ser Ser Pro Asp Ser Pro Gly			
210	215	220	
Ile Pro Glu Arg Ser Pro Arg Trp Pro Glu Gly Ala Cys Arg Gln Pro			
225	230	235	240
Gly Ala Leu Gln Gly Glu Met Ser Ala Leu Phe Ala Gln Lys Leu Glu			
245	250	255	
Glu Ile Arg Ser Lys Ser Pro Met Phe Ser Ala Gly Lys Pro Leu Leu			
260	265	270	
Pro Cys Val Val Leu Pro His Ala Pro Gly Met Ala Gly Pro Gly Ser			
275	280	285	
Pro Ala Ala Ala Ser Ala Trp Thr Val Ser Pro Arg Val Leu Val Leu			
290	295	300	
Val Ala Leu Tyr Pro Trp His Cys Leu Arg Gly Thr Leu Leu Pro Trp			
305	310	315	320
Leu Ala Cys Gly Pro			
325			

<210> 11

<211> 158

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus amino acid

<400> 11

Ser Pro Asp Cys Asn Val Phe Asp Pro Glu His Lys Gln Val His Gln			
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Asp Met Asn Gln Pro Leu Ser His Tyr Phe Ile Asn Ser Ser His Asn			
20	25	30	
Thr Tyr Leu Thr Gly Asn Gln Leu Ser Ser Gly Glu Ser Ser Val Glu			
35	40	45	
Met Tyr Arg Gln Ala Leu Leu Lys Gly Cys Arg Cys Ile Glu Leu Asp			
50	55	60	
Cys Trp Asp Gly Lys Asp Gly Asp Pro Glu Pro Ile Ile Thr His Gly			
65	70	75	80
His Thr Met Thr Thr Glu Ile Ser Phe Lys Asp Cys Leu Glu Ala Ile			
85	90	95	
Lys Glu His Ala Phe Val Thr Ser Glu Tyr Pro Val Ile Leu Ser Leu			
100	105	110	
Glu Asn His Cys Asp Ser Thr Pro Gln Gln Gln Ala Lys Met Ala Glu			
115	120	125	
Tyr Cys Lys Glu Val Phe Gly Asp Met Leu Phe Thr Glu Pro Leu Glu			
130	135	140	
Glu Ser Pro Leu Glu Pro Gly Lys Glu Leu Pro Ser Pro Glu			
145	150	155	

<210> 12

<211> 41

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus amino acid

<400> 12  
Lys Arg Lys Ile Leu Ile Lys Asn Lys Lys Leu Lys Glu His Ser Glu  
1 5 10 15  
Glu Lys Glu Ser Glu Glu Lys Lys Thr Asp Glu Glu Thr Glu Ser Glu  
20 25 30  
Glu Glu Asp Glu Met Gly Ser Asp Ala  
35 40

<210> 13  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 13  
Pro Gly Lys Glu Leu Pro Ser Pro Glu Glu Leu Lys Arg Lys Ile Leu  
1 5 10 15  
Ile Lys

<210> 14  
<211> 181  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 14  
Cys Leu Gln Phe Met Gln Lys Gly Ser Glu Leu Lys Lys Val Arg Ser  
1 5 10 15  
Asn Ser Trp Lys Tyr Asn Arg Tyr Phe Thr Leu Asp Asp Asp Met Gln  
20 25 30  
Thr Leu Trp Trp Glu Pro His Trp Phe Ser Lys Lys Asp Ser Glu Lys  
35 40 45  
Pro Lys Phe Asp Ile Ser Asp Ile Lys Glu Ile Arg Met Gly Lys Asn  
50 55 60  
Thr Glu Thr Phe Arg Asn Asn Gly Lys Glu Phe Gln Ile Gln Glu Pro  
65 70 75 80  
Glu Asp Cys Cys Phe Ser Ile Ile Phe Gly Glu Asn Tyr Phe His Glu  
85 90 95  
Ser Leu Asp Leu Val Ala Asn Ser Ala Asp Val Ala Asn Ile Trp Val  
100 105 110  
Ser Gly Leu Arg Tyr Leu Val Asp Tyr Ala Lys His Met Leu Asp Asn  
115 120 125  
Tyr Gln Glu Gln Leu Asp Gln Trp Leu Arg Glu Trp Phe Gln Gln Ala  
130 135 140  
Asp Arg Asn Lys Asp Ser Arg Met Ser Phe Arg Glu Ala Gln Asn Leu  
145 150 155 160  
Leu Lys Leu Met Asn Val Gln Met Asp Glu Glu Tyr Ala Phe Ser Ile  
165 170 175  
Phe Arg Glu Cys Asp  
180

<210> 15  
<211> 134  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 15  
Phe Asp Glu Phe Asp Thr Asp Gly Asn Gly His Leu Asp Glu Gln Thr  
1 5 10 15  
Ala Phe Lys Cys Ile Lys His Leu Asn Pro Arg Leu Lys His His Lys  
20 25 30  
Ile Thr Asn Lys Phe Lys Glu Ile Thr Ile Lys Ser Lys Glu Lys Glu  
35 40 45  
Arg Thr Lys Ile Thr Lys Glu His Phe Val Asp Leu Tyr Lys Glu Leu  
50 55 60  
Gly Thr Arg Pro Glu Val Tyr Phe Leu Met Val Gln Tyr Ser Lys Asn  
65 70 75 80  
Lys Asp Tyr Leu Asp Cys Gln Asp Leu Met Leu Phe Leu Glu Thr Glu  
85 90 95  
Gln Gly Met Val His Val Thr Glu Asp Asn Cys Leu Asp Ile Ile Glu  
100 105 110  
Gln Tyr Glu Pro Cys Ser Glu Gly Arg Glu Asn Gly Trp Met Thr Ile  
115 120 125  
Asp Gly Phe Thr Ser Tyr  
130

<210> 16  
<211> 92  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<400> 16  
Phe Ser Ser Leu Val Pro Gly Tyr Arg His Val Tyr Leu Glu Gly Leu  
1 5 10 15  
Thr Glu Ala Ser Ile Phe Val His Ile Thr Ile Asn Glu Ile Tyr Gly  
20 25 30  
Lys Asn Arg Gln Leu Gln Gly Leu Lys Gly Leu Phe Asn Lys Asn Pro  
35 40 45  
Arg His Ser Ser Ser Glu Asn Asn Ser His Tyr Val Arg Lys Arg Ser  
50 55 60  
Ile Gly Asp Arg Ile Leu Arg Arg Thr Ala Ser Ala Pro Ala Lys Gly  
65 70 75 80  
Arg Lys Lys Ser Lys Met Gly Phe Gln Glu Met Val  
85 90

<210> 17  
<211> 51  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Consensus amino acid

<221> VARIANT  
<222> (1)...(51)  
<223> Xaa = Any Amino Acid

<400> 17  
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Gly Asp Asn Gln Gly His Arg Lys Gly Pro Leu Ile Val Met Cys Asp  
20 25 30  
Glu Asn Gln Ser Thr Ala Gly Cys Xaa Xaa Asp Glu Leu Ile Val Met  
35 40 45  
Phe Tyr Trp  
50